

What is claimed is:

1        1.    A drive device for a mechanical press with a two-step speed reduction mechanism  
2 for driving a slide of the mechanical press comprising:  
3              a drive pinion provided concentrically with a crankshaft;  
4              a main gear mounted on said crankshaft;  
5              intermediate gears meshing with said drive pinion; and  
6              intermediate pinions meshing with said main gear; wherein a plurality of said  
7 intermediate gears and said intermediate pinions are concentrically provided with each other.

1        2.    A drive device for a mechanical press described in claim 1, further comprising:  
2              a second set of intermediate gears, wherein said intermediate gears and said  
3 second set of intermediate gears are located on opposite sides of said drive pinion in symmetric  
4 positions; and  
5              a second set of intermediate pinions, wherein said intermediate pinions and said  
6 second set of intermediate pinions are located on opposite sides of said main gear on symmetric  
7 positions.

1        3.    A drive device for a mechanical press described in claim 1, further comprising:  
2              a drive shaft having an end on which said drive pinion is provided, said drive  
3 shaft rotatably engages a hole formed on an end of said crankshaft in order to support another  
4 end of the drive shaft.

1           4.     A drive device for a mechanical press described in claim 2, further  
2     comprising:  
3                 a drive shaft having an end on which said drive pinion is provided, said  
4     drive shaft rotatably engages a hole formed on an end of said crankshaft in order to  
5     support another end of the drive shaft.

1           5.     A drive device for a mechanical press with a two-step speed reduction  
2     mechanism for driving a slide of the mechanical press comprising:  
3                 a drive pinion provided concentrically with a crankshaft;  
4                 a main gear mounted on said crankshaft;  
5                 intermediate gears meshing with said drive pinion;  
6                 intermediate pinions meshing with said main gear; wherein a plurality of  
7     said intermediate gears and said intermediate pinions are concentrically provided with  
8     each other; and  
9                 a brake comprising:  
10                 a break shaft; and  
11                 a brake pinion formed on said brake shaft and meshing with said  
12     intermediate gears.

1           6.     A drive device for a mechanical press described in claim 5, further  
2     comprising:  
3                   a second set of intermediate gears, wherein said intermediate gears and  
4     said second set of intermediate gears are located on opposite sides of said drive pinion in  
5     symmetric positions; and  
6                   a second set of intermediate pinions, wherein said intermediate pinions  
7     and said second set of intermediate pinions are located on opposite sides of said main  
8     gear on symmetric positions.

1           7.     A drive device for a mechanical press described in claim 5, further  
2     comprising:  
3                   a drive shaft having an end on which said drive pinion is provided, said  
4     drive shaft rotatably engages a hole formed on an end of said crankshaft in order to  
5     support another end of the drive shaft.

1           8.     A drive device for a mechanical press described in claim 6, further  
2     comprising:  
3                   a drive shaft having an end on which said drive pinion is provided, said  
4     drive shaft rotatably engages a hole formed on an end of said crankshaft in order to  
5     support another end of the drive shaft.

1           9.     A drive device for a mechanical press with a two-step speed reduction  
2     mechanism for driving a slide of the mechanical press comprising:

3                   a drive pinion provided concentrically with a crankshaft;

4                   a main gear mounted on said crankshaft;

5                   an intermediate gear meshing with said drive pinion; and

6                   an intermediate pinion meshing with said main gear; wherein said

7   intermediate gear and said intermediate pinion are concentrically provided with each

8   other.